United States Department of Agriculture Forest Service

Draft Record of Decision

Kelsey Peak Timber Sale and Fuelbreak Project

Mad River Ranger District
Six Rivers National Forest

Pacific Southwest Region • R5-MB-261b • December 2013

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Contents

Introduction

The Kelsey Peak Timber Sale and Fuelbreak Project is designed to harvest commercial timber and treat hazardous fuels on National Forest System (NFS) lands administered by the Mad River Ranger District. An environmental impact statement (EIS) was developed to analyze the potential effects of the Kelsey Peak Project. Three alternatives were considered and analyzed. This record of decision documents the alternative I have selected and the rationale for my decision.

Background

The Kelsey Peak project area is approximately 3,511 acres in size and is located on National Forest System lands administered by the Mad River Ranger District south of Ruth, California. The planning area (approximately 19,351 acres) is located in Trinity County, California, in portions of the following legal location: Township 2 South, Range 8 East and Township 3 South, Range 8 East, Humboldt Meridian; and Township 28 North, Range 12 West and Township 27 North, Range 12 West, Mt. Diablo Meridian.

The project area lies within the Upper Mad River Watershed located in the upper portion of the Mad River Basin, which has been listed as water-quality impaired under Section 303(d) of the Federal Clean Water Act. The primary management-related sources of sediment are attributed to current road conditions. When taking into account possible cumulative effects of the adjacent proposed Beaverslide Project, one 6th-field watershed within the Upper Mad River is approaching the threshold of concern for cumulative watershed effects. However, there is a low risk of added cumulative effects and no adverse cumulative watershed effects are likely to occur.

The planning area occurs within portions of the wildland-urban interface for the communities of Ruth, Barry Creek, and Three Forks, California. Numerous homes and several businesses contribute to the high economic value ranking in the area. Fuel hazards here are moderate, but fire risk is high due to the number of people in the area.

Northern spotted owls, a threatened species, occur in the planning area, as well as three other wildlife species that are proposed or candidates for listing. Sensitive wildlife and plant species and survey-and-manage botanical species are also known to occur within the planning area.

Purpose and Need for the Project

Given the goals identified in the Six Rivers Land and Resource Management Plan (LRMP) and environmental conditions within the planning area, the purpose and need for the proposed action is to:

- Provide timber commodities that contribute towards the Forest's sustainable supply goals to help support local economies.
- Provide fuelbreaks along strategic road corridors to improve fire protection and human safety for both the forest and adjacent communities.

Within the context of meeting the purpose and need, there would be opportunities for fuelwood or biomass utilization associated with proposed activities.

My Decision and Reasons for the Decision

The Selected Alternative – Alternative 2A

Based upon my review of public comments, all alternatives, the effects analysis in the FEIS, and supporting documentation, I have selected Alternative 2A. My conclusion is based on a review of the record that shows a thorough analysis using the best available science.

This alternative will treat approximately 3,511 acres and produce 14.1 million board feet of commercial timber from 1,718 acres (1,451 acres of low thinning 31 acres of low thinning for late mature forest restoration, and another 236 acres of low thinning considered as timber stand improvement). Of these, 259 acres will be treated within the outer 80 feet of riparian reserve areas. Harvesting will be exclusively through thinning from below (low thinning). The project is designed to restore and protect spotted owl habitat. No regeneration cutting will take place throughout the project area. Logging systems will include 1,105 acres of tractor logging, 495 acres of skyline cable logging, and 118 acres of helicopter logging. See the appendix to this document for maps and specific treatments in each unit.

Fuelbreak treatments will occur on up to 2,192 with approximately 399 acres overlapping with commercial thinning treatments. Existing system roads will be used for the project with no new system road construction. Haul routes used will receive routine road maintenance, with aggregate and water coming from existing sources. Alternative 2A will construct and then decommission 2.6 miles of temporary roads, none within riparian reserves. A total of 4.1 miles of existing temporary roads will be used. A total of 3.2 miles will be decommissioned and the remaining 0.9 miles will remain open as motorized trails. In addition to decommissioning temporary roads, a total of 4.5 miles of system roads will be decommissioned to reduce sediment delivery to streams and improve watershed conditions.

Cut trees will be transported to 85 existing landings, and 26 new landings may need to be constructed. Landings associated with new temporary roads will be rehabilitated (ripped then seeded or mulched) after completion of activities.

The proposed activities under this alternative will likely occur within 3 to 5 years of this decision and may last approximately 10 years.

Alternative 2A will capture the opportunity for contributing to the Forest's allowable sale quantity to provide sawtimber commodities that contribute to the local economies, improve and protect habitat for late-successional habitat species, and reduce the crown fire potential in most of the treatment area to the surface fire category, which will decrease risk to public and firefighter safety in the event of a wildland fire.

Although the use of tractors in ground-based logging is known to have impacts to soil productivity and water quality, the impacts are expected to be minimal because activities include protective design features and best management practices as described near the end of Chapter 2 in the FEIS (pp. 22-23). These measures are designed to ensure estimated effects on soil and water will fall within the resource protection standards and guidelines of the Six Rivers National Forest LRMP (FEIS, Soils and Watershed Resources sections, pp. 170-214).

Alternative 2A is designed to protect all sensitive plant and wildlife species with particular attention paid to northern spotted owl. Treatments will accelerate the development of important habitat characteristics currently lacking in the stands. All stands designated as late-mature or old growth will be excluded from harvest, with the exception of one unit (31 acres) which will

receive a late mature forest restoration treatment. All treated acres will remain suitable habitat post-project. Low thinning will lead to increased growth and vigor of overstocked stands, which will move early- and mid- mature stands to mature stands in a shorter length of time (FEIS, pp. 57-163).

I chose Alternative 2A over Alternative 3 because Alternative 2A will improve growth and will lead to higher percentages for the mid- and late-mature stages than Alternative 3. In addition, the reduction of acres proposed for treatment in Alternative 3 makes the alternative less economical.

Public Involvement

A notice of intent to prepare an EIS was published in the Federal Register on September 11, 2009. Public comment was to be received by October 13, 2009. In addition to publishing a notice of intent, public involvement consisted of mailing the proposed action and a cover letter to 50 adjacent landowners, 25 local organizations, county government, businesses and proponents, 4 State and Federal agencies, and 11 interested parties and individuals (including tribes) for a total of 90 individuals, organizations, and agencies whom have shown interest in Mad River Ranger District projects in the past. The letters explained the purpose and need for the project, provided maps of the project, and solicited comments on the proposed action. Six comment letters were received as a result. Copies of the letters can be found in the project record.

The Kelsey Peak Project was listed in the Six Rivers National Forest's Schedule of Proposed Actions starting in the fall of 2009. The schedule is mailed out to a Forest mailing list of people interested in the management activities of the Forest. The schedule provides one of the means of keeping the public informed of the progress of individual projects. The Schedule of Proposed Actions is also made available to the public on the Six Rivers National Forest website.

On April 13, 2010, a DEIS was filed with the U.S. Environmental Protection Agency (EPA) and a notice of availability (NOA) was printed in the Federal Register April 26, 2009. A correction notice for the final date in which comments could be received was published in the Federal Register April 30, 2010, which initiated a 45-day public comment period. Eight responses were received from nine agencies/organizations. In addition 43 individuals sent in a form letter. A complete list of comments and our responses is included in Appendix D of the FEIS.

Other Alternatives Considered

Three alternatives were considered but were dropped from detailed study. Alternative 2 (the original proposed action) was dropped from detailed study with the modified proposed action becoming Alternative 2A. An alternative that would keep 80 percent canopy on north-facing slopes and 60 percent on south-facing slopes and would not treat within the riparian reserves was also considered. Alternative 4, analyzed in the draft EIS was eliminated from detailed analysis due to designation of northern spotted owl critical habitat (FEIS pp. 13-14).

In addition to the selected alternative, I considered two other alternatives in detail which are summarized below. Alternative 3 was the environmentally preferable alternative with fewer acres impacted. A more detailed description and comparison of these alternatives can be found in the FEIS on pages 14-29.

Alternative 1 - No Action

Under the no action alternative, no timber harvesting and associated activities, noncommercial fuel treatments, or road management on system roads and unauthorized routes would occur in the Kelsey Peak planning area at this time (FEIS p. 14). I did not select this alternative because it would not achieve the stated purpose and need, while other alternatives could.

Alternative 3

This alternative was developed to respond to public concerns about temporary roads contributing to sedimentation (FEIS p. 15). Under this alternative, commercial timber harvesting (low thinning) and activity fuel reduction treatments would occur on 1,543 acres, yielding approximately 12.2 million board feet. Logging systems employed under this alternative would include 1,095 acres of tractor logging, 272 acres of skyline cable logging and 176 acres of helicopter logging would be employed. There would be no new road construction. A total of 3.6 miles of existing temporary roads would be used. A total of 2.6 miles would be decommissioned and 0.9 miles would remain open as motorized trails. In addition to decommissioning temporary roads, a total of 4.5 miles of system roads would be decommissioned to reduce sediment and improve watershed conditions.

Although the lack of new temporary road construction in this alternative alleviated some of the concerns about potential sediment production, I did not select this alternative because it harvested the least amount of acres which reduced the amount of habitat restored and protected for the spotted owl and other species and caused it to be the least economically viable of the alternatives.

The Environmentally Preferable Alternative

The Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) require that the record of decision specify "the alternative or alternatives which were considered to be environmentally preferable" (40 C.F.R. §1505.2(b)). The environmentally preferred alternative has been interpreted to be the alternative that will promote the national environmental policy as expressed in the NEPA Section 101 ("CEQ's Forty Most-Asked Questions", 46 Federal Register, 18026, March 23, 1981). Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

Alternative 2A constructs 2.6 miles of temporary roads. Road construction and reconstruction in alternative 2A may contribute to increased sediment loading in a watershed. The Kelsey Peak Project is within a watershed that is listed as water quality impaired for sediment and turbidity under the Federal Clean Water Act. This alternative was designed to reduce sediment by improving existing road conditions and decommissioning 3.2 miles of temporary roads and decommissioning 4.5 miles of system roads. The equivalent roaded acres (ERA) for each of the watersheds analyzed are below the "threshold of concern" (FEIS, Cumulative Watershed Effects, p. 204).

Alternative 3 goes further in addressing the watershed issue by not having any new road construction and proposes commercial harvest on fewer acres. Due to the watershed issue, Alternative 3 would be the environmentally preferred alternative because this alternative has the least potential to impact the watershed.

Findings Required by Other Laws and Regulations

Alternative 2A complies with the following laws and regulations:

National Environmental Policy Act

The environmental impact statement (EIS) prepared for this project fulfills the requirements for environmental analysis found in the National Environmental Policy Act (NEPA) and in the Council on Environmental Quality (CEQ) implementing regulations at 40 CFR Parts 1500-1508. This project was developed using NEPA procedures designed to provide decision makers with a detailed accounting of the likely environmental effects of proposed actions and alternatives, as well as to inform the public of these effects, and allow comments on such effects.

National Forest Management Act

The National Forest Management Act (NFMA) requires projects to be consistent with Forest Plans. This decision fully complies with the Six Rivers National Forest Land and Resource Management Plan (LRMP; 1995). It is consistent with the intent of the Forest Plan's long-term goals and objectives, as described in the Management Direction section of Chapter 1 of the FEIS pp. 6-9). It also incorporates all applicable LRMP standards, guidelines, and management direction as they apply to the project.

The final environmental impact statement (FEIS) was prepared under the direction of the joint Forest Service-Bureau of Land Management Aquatic Conservation Strategy guidance memo from May 22, 2007. This memo stated that in order to make the finding that a project or management action "meets" or "does not prevent attainment" of the Aquatic Conservation Strategy objectives, the analysis must include a description of the existing condition, a description of the range of natural variability of the important physical and biological components of a given watershed, and how the proposed project or management action maintains the existing condition or moves it within the range of natural variability". The Watershed Resources section of the FEIS (p. 186-210) includes this analysis. This project is consistent with the Aquatic Conservation Strategy objectives because it is designed to contribute to maintaining or restoring the conditions of the project area and, through these actions, the watershed condition as a whole over the long term, with only minor short-term effects. Project design criteria are protective of aquatic resources and allow treatments only where they can maintain or improve conditions within riparian reserves. Fuel treatments are designed to move the area towards a more natural fire regime. Thinning prescriptions within riparian reserves remove smaller trees, leaving large trees and hardwoods with a minimum of 60 percent canopy closure. Road closures, upgrading, and decommissioning will follow recommendations from both the Upper Mad River Watershed Analysis, the Upper Mad River Watershed Restoration Action Plan, as well as the Mad River TMDL. Overall, this project will have long-term positive effects for aquatic habitats within the project area and for the watershed as a whole (FEIS, p. 210).

The selected alternative complies with the current survey and manage species direction associated with the Northwest Forest Plan (FEIS, Land and Resource Management Plan Direction, p. 6 and Survey and Manage Species section pp. 82-84).

The NFMA also requires projects to be consistent with minimum specific management requirements as provided in the implementing regulations at 36 CFR 219.27. Resource Protection 219.27(a) is discussed throughout Chapter 3 of the FEIS. Silvicultural Practices 219.27(c) and Even-aged Management 219.27(d) are discussed in the proposed actions in Chapter 2 (pp. 14-18) and effects addressed in the Vegetation section of Chapters 3 of the FEIS (pp. 34-49). Soil and

Water 219.27(f) are addressed in the Soils and Watershed Resources sections of Chapters 3 of the FEIS (pp. 170-210). Diversity 219.27(g) is addressed in the Vegetation (FEIS, pp. 34-51), Wildlife (FEIS, pp. 58-87, 100-157), and Botany (FEIS, pp. 57, 87-99) sections of Chapters 3. As such, I find the selected alternative to be consistent with the provisions of the NFMA.

Endangered Species Act

The purpose of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) is to conserve "the ecosystems upon which endangered and threatened species depend" and to conserve and recover federally listed species. Section 7(a) of the Endangered Species Act (ESA) requires Federal agencies to consult with National Marine Fisheries Service (NFMS) and USDI Fish and Wildlife Service (FWS), as appropriate, to ensure that Federal agencies actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their critical habitats. The northern spotted owl is the only federally listed species known to occur or have suitable habitat within the project area. The project area is too far inland for the marbled murrelet to occur. There are no other federally listed plant or fish species within the project area.

Thorough analysis of the project's estimated effects on threatened, endangered and proposed candidate species were documented in biological assessments. Formal consultation with the U.S. Fish and Wildlife Service was completed per receipt of their November 4, 2013 Biological Opinion for the Kelsey Peak Timber Sale and Fuelbreak Project. (USDI Fish and Wildlife Service 2013) This fulfilled the consultation requirements under Section 7 of the Endangered Species Act (19 U.S.C. 1536 (c)).

Pacific fisher and western yellow-billed cuckoo are identified on the Fish and Wildlife Service's species list as candidate species to be considered for "listing". Both species are also considered as Forest Service sensitive species. The determination of effect for both species under the selected alternative was "may impact individuals, but is not likely to result in a trend toward Federal listing or loss of viability" (FEIS, pp. 111, 115). This was achieved by incorporating the Six Rivers National Forest LRMP standards and guidelines and project design features into the proposed project which improves habitat conditions for the wildlife species known to occur within the planning area.

Clean Water Act

The Clean Water Act provides direction "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The Federal Clean Water Act (Section 303) requires states to adopt water quality standards (water quality objectives and beneficial uses). Under the oversight of the Environmental Protection Agency (EPA), the North Coast Regional Water Quality Control Board is the local entity responsible for implementing CWA in northwest California. Pursuant to the Clean Water Act and Porter-Cologne Water Quality Control Act, the Environmental Protection Agency and North Coast Water Quality Control Board have been informed of the assessment of water quality effects associated with this project.

The analysis for Alternative 2A shows that the use of design features and best management practices (listed in the appendix to this documents and on pages 20-28 in the FEIS) will ensure estimated effects on soil and water will fall within the resource protection standards and guidelines of the Six Rivers National Forest LRMP (see Chapter 3 of FEIS, pp. 170-210). Given the design features and best management practices built into the project, and the findings of minimal effects to the beneficial uses of water as disclosed in the FEIS, this project is consistent with the North Coast Water Quality Control Board Basin Plan, North Coast Regional Water

Quality Waiver of Waste Discharge Requirements (Order No. R1-2010-0029), and therefore is consistent with the Clean Water Act (FEIS, Watershed Resources section p. 204).

National Historic Preservation Act

The National Historic Preservation Act (NHPA) requires protection of all significant cultural resources, including archeological sites. This project is consistent with the 2013 *Programmatic Agreement among the USDA Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Processes for Compliance with Section 106 of the National Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region* (PA). An archaeological reconnaissance was conducted on the project area and recorded in a Cultural Resource Inventory Report (CRIR 05-10-54-01044) and signed by the Heritage Program Manager on 01/27/2010. This confidential report is on file in the Heritage Department of the Six Rivers National Forest Supervisor's Office. Standard resource protection measures have been applied to those sites in and near the area of potential effect. The project will not affect districts or sites listed in, or eligible for listing in, the National Register of Historic Places (FEIS, Cultural Resources section, p. 220).

Environmental Justice

An environmental justice issue arises where conduct or action may involve a disproportionately high and adverse environmental or human health effect on identifiable low-income or minority populations. To determine this, an analysis was conducted in accordance with Executive Order 12898, which considers potential impacts to subsistence consumption and human health (FEIS p. 230). Based on this analysis, I find there are no environmental justice issues affecting human health or the environment that would have an adverse effect on minority or low-income populations through the implementation of this project.

Objection Opportunities

This decision is subject to objection pursuant to 36 CFR Part 218.8. The objection must be filed by way of regular mail, fax, e-mail, hand-delivery, or express delivery with the Objection Review Officer: Regional Forester, USDA Forest Service, 1323 Club Drive, Vallejo, CA 94592. The fax number is (707) 562-9229.

The office business hours for those submitting hand-delivered objections are: 8:00 a.m. to 4:30 p.m. Monday through Friday, excluding holidays. Electronic objections must be submitted in a format such as an e-mail message, plain text (.txt), rich text format (.rtf), or Word (.doc) to objections-pacificsouthwest-regional-office@fs.fed.us with Subject: Kelsey Peak. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

Objections, including attachments, must be filed within 45 days from the publication date of this notice in the Eureka Times-Standard, the newspaper of record. Attachments received after the 45-day objection period will not be considered. The publication date in the *Eureka Times-Standard*, newspaper of record, is the exclusive means for calculating the time to file an objection. Those wishing to object this project should not rely upon dates or timeframe information provided by any other source.

Objections will be accepted only from those who have previously submitted specific written comments regarding the proposed project either during scoping or other designated opportunity for public comment in accordance with § 218.5(a). Issues raised in objections must be based on previously submitted timely, specific written comments regarding the proposed project unless based on new information arising after designated opportunities.

Individual members of organizations must have submitted their own comments to meet the requirements of eligibility as an individual, objections received on behalf of an organization are considered as those of the organization only. If an objection is submitted on behalf of a number of individuals or organizations, each individual or organization listed must meet the eligibility requirement of having previously submitted comments on the project (§ 218.7). Names and addresses of objectors will become part of the public record.

The notice of objection must meet the content requirements at 36 CFR 218.8.

The Responsible Official for the proposed land management project may not issue a decision until the Reviewing Officer has responded to all pending objections. A written response will be issued within 45 days following the end of the objection-filing period. The time for objection responses may be extended by the Reviewing Officer.

Implementation

This decision may be signed and implementation will follow the direction at 36 CFR 218

Contact Person

For additional information concerning this decision or the Forest Service objection process, contact Jeff Jones, Forest Vegetation Program Manager, Six Rivers National Forest, 1330 Bayshore Way, Eureka, CA, 95501-3834, (707) 441-3553.

TYRONE KELLEY
Forest Supervisor
Six Rivers National Forest

DATE

Appendix A

Project Design Features

Project design features are incorporated into the design of the project activities described above and are intended to reduce, minimize, or eliminate impacts to various natural and human resources. These features are intended to assure project compliance with the resource protection standards and guidelines of the Six Rivers National Forest LRMP, as well as compliance with other Federal and California State laws, regulations, and policy.

Riparian Reserves

Within the planning area, a total of 8,814 acres are within established riparian reserves where widths correspond to a slope distance of 160 feet from the edge of the channel on perennial non-fish-bearing, intermittent, and ephemeral-with-scour streams, and a slope distance of 320 feet on fish-bearing streams (see map 7 in the map packet). This would be for each side of the stream channel.

Within Riparian Reserves, treatments could occur within the outer 80 feet of the reserves. Silvicultural prescriptions would consist primarily of thinning on 259 acres under Alternative 2A; timber stand improvement on approximately 26 acres under Alternative 2A; and 1 acre of late-mature stand restoration. Silvicultural prescriptions are specifically designed to benefit stand conditions where the objectives are to increase the average diameter of the stand, and/or accelerate the development of the shade-tolerant understory. All predominant conifers, and most healthy dominant conifers and hardwood trees would be retained. Accelerating the diameter growth of riparian stands would assist in creating late-successional conditions and providing for a faster development of large woody material sources for instream and terrestrial habitat.

The following measures are also intended to protect and maintain riparian reserves:

1. No heavy equipment would be allowed within riparian reserves except on permanent or temporary roads.
2. Riparian reserve widths correspond to a slope distance of 160 feet from the edge of the channel on perennial non-fish bearing, intermittent, and ephemeral with scour streams, and a slope distance of 320 feet on fish-bearing streams, or the break in slope of the inner gorge, whichever is greater. Unstable or potentially unstable areas are included in riparian reserves.
3. Springs and wetlands are included within riparian reserves and would be buffered from project-related activities.
4. Existing temporary road channel crossings within riparian reserves would be decommissioned and left in a hydrologically stable condition at the end of project activities, with the exception of one temporary road crossing that would remain as a motorized Trail – Blair (8E40). No new temporary road channel crossings are proposed.
5. New landings would not occur within riparian reserves. Existing landings at least 100 feet away from streams could be used as long there was low risk of sediment addition to channels. These landings would be mulched or ripped and seeded after use.
6. On non-fish-bearing streams, the inner one-half of the riparian reserve width (80 feet) will be excluded from any commercial harvest treatment under all alternatives. On fish-bearing streams, the inner 240 feet out of the 320 feet riparian reserve would be excluded from any

commercial harvest treatments. Commercial thinning could occur within the outer 80 feet of riparian reserves; generally 80 to 160 feet from the channel or break in slope, whichever is greater on non-fish-bearing perennial, intermittent, and ephemeral streams, and 240 to 320 feet or break in slope on fish-bearing streams and rivers. An average canopy closure of 60 percent or greater would be maintained within the treated portions of the reserves.

7. Fuel reduction treatments such as jackpot or pile burning could occur following thinning or fuel reduction treatments to reduce excess residual slash in the outer 80 feet of the riparian reserves. Fuel reduction treatments may include the thinning, pruning, removal and/or piling of live and dead vegetation 8 inches or less in diameter. Burning of piles would be implemented during or after wet weather conditions. Maximum size of hand piles would be 6 feet wide by 6 feet high. Hand piles would be placed in a checkerboard pattern whenever possible (not one pile directly above another). Jackpot burning conducted in the outer portions of riparian reserves may be allowed to creep into the inner portions in the form of a slow backing fire.
8. No fuel treatments would occur within the inner riparian reserves, defined as being 80 feet from the stream channel for non-fish bearing streams and 240 feet for fish-bearing streams.
9. No firelines would be constructed in riparian reserves.
10. Skyline yarding corridors that cross a riparian reserve would not exceed 15 feet in width and full log suspension would be required in the inner 80 feet of riparian reserves. Within the rest of the riparian reserve, at least one end-log suspension would be required.
11. Trees cut down to create skyline suspension corridors within the inner portions of a riparian reserve would remain on site.

Soil, Water, Fish

1. For each unit, soil porosity will be maintained to at least 90 percent of its natural condition over at least 85 percent of the unit area (LRMP S&G 1-2, p. IV-71).
2. Ground-based equipment will be limited to slopes of 35 percent or less to minimize soil disturbance and subsequent erosion (LRMP S&G 1-8, p. IV-71).
3. Skid roads and trails will be limited to no more than 15 percent of the harvest area (LRMP S&G 1-4, p. IV-71).
4. At the end of project activities, a layer of litter and duff will occur over at least 50 percent of the activity area (LRMP, Appendix L-1).
5. In all treatment units, existing coarse woody debris would be retained (at least five logs per acre, at least 20 inches in diameter and 10 feet long) on the ground and protected from disturbance.
6. All temporary road construction and maintenance would occur during the dry season or when conditions allow.
7. In the event any temporary road construction produces unforeseen seeps (wet areas), that segment of the road would be surfaced with rock.
8. New or reconstructed landings would be shaped to disperse drainage. Erosion prevention measures such as cross ditches, rock armoring, straw bales, or slash would be used as necessary to direct water to areas of suitable drainage and to capture sediment. New landing fill slopes and road fill slopes (greater than 100 square feet) would be mulched.

9. Logging and haul operations normally occur from May 15 to October 15 or when conditions allow. During wet weather conditions, the Six Rivers National Forest wet weather operating standards (January 2012, or current) would be followed. A "Wet Weather/Winter Operations Standards" agreement (revised 1/17/2012) would be required followed for hauling in wet weather.
10. Skid roads and trails would be located on stable areas such as ridgetops, flat benches, or on existing skid trails (to the extent possible) in order to minimize soil disturbance. Skid trails would not be reused in sections of units 2, 4, 5a, 5b, 34, 90b, and 95 where these skid trails are too steep. No benched skid trails would be constructed.
11. Skid roads would be water-barred upon completion of use.
12. To reduce the potential for soil erosion and compaction in units 7, 11, 16a, b, and c, 17, 20, 23, 28, 47, 62, 67, 68, 70, and 76, tractor skidding would be allowed only when the top 10 inches of soil is dry.
13. Burning operations would typically take place during or after wet weather events when soil moisture contents are generally higher.
14. Steep draws and channels that do not exhibit annual scour but are considered at risk for mass movement would be protected by addition into the riparian reserve. More moderately sloped draws and channels would be protected through designated crossings and equipment exclusion.
15. Subsoiling would occur on ground-based units with existing soil compaction levels over or near the 15 percent standard (units 7, 16a, b and c, 17, 20, 28, 67, 70, and 76). Subsoiling would be to a depth of approximately 18 inches on temporary roads, landings, and within the first 100 feet of arterial skid roads that connect to a landing to restore soil compaction to an acceptable level. Rocky soils may not be appropriate to subsoil. Shallow soils generally are not appropriate to subsoil. A soil scientist shall be on site to approve conditions prior to subsoiling activities on these units. A soil scientist in team with the contract administrator shall confirm the landings, temporary roads, and first 100 feet of arterial skid roads connected to a landing are subsoiled according to specs. Mulching or hydroseeding may be required after subsoiling. Treatment units 7, 67, 70, and 76 would likely require mulching or hydroseeding to reduce erosion potential. Portions of unit 16, mapped with soil map unit 100 (river wash/mixed alluvium) are too rocky for subsoiling and should be avoided.
16. During water-drafting operations, the intake end of the hose would be screened to avoid direct injury to aquatic species.
17. Fuel and other petroleum products must be stored, and refueling must occur, at least 100 feet from any stream or other sensitive waterbodies. A funnel should be used when refueling equipment Spill mats are required to be used when refueling equipment without a funnel, but it is generally good practice to keep spill mats on site. A spill kit must be kept onsite (each active operation area) as required by contract.

Wildlife

Northern Spotted Owl

In northern spotted owl habitat:

1. No treatments would occur within a 70-acre minimum nest grove around a known spotted owl activity center.

2. No treatments would occur in high quality nesting and roosting habitat.
3. From February 1 through July 9, prohibit all timber harvest, heavy equipment use, chainsaw use, helicopter yarding, temporary road construction, and smoke producing activities within 0.25 mile of any unsurveyed nesting/roosting habitat. These limited operating periods could be lifted if protocol surveys are completed and owls are not detected in a given unit.
4. From February 1 through July 9 prohibit all timber harvest, heavy equipment use, chainsaw use, helicopter yarding, temporary road construction, and smoke producing activities within 0.25 miles of known northern spotted owl activity centers, unless surveys to protocol determine the owls are not nesting.
5. Post-project canopy closure in nesting/roosting habitat would be maintained at greater than 60 percent to ensure that nesting/roosting habitat remains suitable immediately post- project.
6. Post-project canopy closure in foraging and dispersal habitat would be maintained at greater than 40 percent to ensure that foraging habitat remains suitable immediately post-project.
7. In foraging and dispersal habitat for the northern spotted owl within fuelbreak corridors, the diameter of live trees cut would be limited to 12 inches or less.
8. Helicopter flight paths would avoid known nest sites and unsurveyed nesting/roosting during the breeding season (February 1 to July 31). Helicopters would fly at least 500 feet above the canopy until it reaches the project site. Flight paths would be located at least 0.25 miles and landing sites would be located 0.5 mile from known nest sites or unsurveyed nesting/roosting habitat.
9. In nesting/roosting habitat for the northern spotted owl within fuelbreak corridors, the diameter of live trees cut would be limited to 8 inches or less.
10. No treatment of fuels or commercial thinning would occur in suitable nesting/roosting habitat within 1.3 miles of spotted owl activity center 291.
11. All commercial thinning units in foraging habitat would be dropped that are within 0.7 miles of activity center 291.
12. No new temporary roads or landings would be located in suitable nesting/roosting habitat within 1.3 miles of spotted owl activity center 291.

Pacific Fisher

1. In the event that denning sites are identified during implementation, management activities will be modified to meet the objectives of the Fisher Habitat Capability Model within 500 feet of the site (LRMP FEIS, Appendix B, Table B-18 and LRMP, p. IV-102).

Northern Goshawk

2. In established northern goshawk primary nest zones and foraging habitat zones:Restrict habitat-modifying activities from occurring during the period of March 1 to August 31 within the primary nest zone (0.5-mile radius).
3. Restrict activities producing loud and/or continuous noise from occurring during the period of March 1 to August 31 within 0.25 mile of active nest sites.
4. In Subunit 85b under both action alternatives, retain a minimum of 60% canopy closure post-treatment to maintain existing amounts of suitable northern goshawk habitat in the PNZ.

5. Within the Foraging Habitat Zone, maintain 60 percent in a mosaic of mid-mature to late-successional forest condition. Desired conditions include open understories, large coarse woody debris, large snags, small openings. The remaining 40 percent can be younger stands and small openings. Encourage use of underburning, fuels reduction, and thinning to achieve desired habitat conditions.
6. Landing sites would be located 0.5 mile from known northern goshawk nest sites.
7. Helicopter flight paths would be located at least 0.25 mile from known northern goshawk nest sites.
8. Known nesting pairs will receive an 8-acre no-treatment area encompassing the nest tree. This retention area may consist of areas within and outside of the unit, depending on available habitat.

Snag and Log Retention Guidelines

1. All existing large snags (20 inches in diameter or greater) within treatment units would be retained at 80 to 100 percent of existing levels unless they pose a safety hazard during operations or to the public.
2. Cull logs (those not meeting minimum merchantable sawlog standards) will be left in units where the average number of existing large down logs per acre (20 inches in diameter or greater and 10 feet or greater in length) is less than the average density by series and seral stage as listed in Table IV-8 of the Six Rivers LRMP (p. IV-79).
3. Slash piles would be at least 5 feet from leave trees, snags, and down logs to minimize the risk of burning these habitat components.

Botany (Forest Service Sensitive and Survey and Manage Botanical Species)

Further detail on the design features for sensitive species is included in the botany biological assessment and evaluation (Hoover 2013) and the Northwest Forest Plan survey and manage disclosure document (Middlebrook and Hoover 2013).

1. No activities would occur within a 1.6-acre buffer established around an occurrence of Pacific fuzzwort (*Ptilidium californicum*), a bryophyte, detected in unit 60. This species is both a Forest sensitive species and survey and manage species. This design feature meets the intent of managing for the species as both a sensitive and survey and manage species.
2. No activities would occur within buffers established around three occurrences of mountain lady's slipper (*Cypripedium montanum*): unit 18 - 1.4 acres, and fuel corridor 29N30 - 0.72 acre. Mountain lady's slipper is both a Forest sensitive and survey and manage species. This design feature meets the intent of managing for the species as both a sensitive and survey and manage species.
3. No activities would occur within a 0.2-acre buffer established around an occurrence of small-flowered calycadenia (*Calycadenia micrantha*).
4. Use of a masticator would be prohibited in an approximate 1-mile segment of the fuelbreak along 27N13 and approximately a 0.2-mile segment of the fuelbreak along 27N12 where small-flowered calycadenia occurs throughout. Cut shrubs shall not be piled in the bare patches where small-flowered calycadenia occurs. Cut material would be located or scattered in the area where removed or relocated to the road for subsequent burning or chipping. Activities would occur after September 30 when possible to allow for seed dispersal.

5. No activities would occur within a 0.25-acre buffer established around one site of *Dendriscocaulon intricatulum*, a survey and manage lichen species, detected in one area of the 27N32G fuels corridor.

Noxious Weeds

Treatment specifications and associated maps are in the Noxious Weed Risk Assessment for this project (Carlberg 2013). An overarching objective of all project design features presented below is to prevent seed heads of noxious weeds from being picked up on equipment operating in infested areas and introducing seed to currently uninfested areas.

1. Pre-operation treatment of heavily-infested sites of yellow starthistle or Canadian thistle (Locations 2, 3, 8, 9, 10, and 12, see Figure 1, Carlberg 2013) where equipment would be operating, shall be accomplished via:

   a. Yellow starthistle or Canadian thistle would be mechanically treated (by weed whacking) and treated plants would be removed (either by pile burning on site or raking) from the vicinity where equipment would be operating. If operations are expected to remain at an infested site for more than 2 weeks, sale administrator shall monitor the site to determine if any flowering stalks have developed during the interval since initial treatment. If so, retreatment may be necessary, OR:

   b. Alternatively, application of an organic herbicide (acetic acid- or citric acid-based products) shall take place in the bud-stage of development (typically around early June for yellow starthistle, late June to early July for diffuse knapweed).

   c. Where heavy infestations correspond to proposed new landings, apply native mulch/finely masticated material to a depth of at least 3 inches over the landings.

2. Pre-operation treatments of diffuse knapweed shall be treated manually. If operations are expected to remain at an infested site for more than 2 weeks, sale administrator shall monitor the site to determine if any rosettes or flowering stalks have developed during the interval since initial treatment. If so, retreatment may be necessary. Botanist should be consulted for assistance in identification.

   a. Adjacent to unit 34 and associated new temporary road, landings would be ripped, decompacted, and revegetated consistent with Forest revegetation guidelines (USDA Forest Service 2007c) or native mulch or finely masticated material would be applied to a depth of a least 3 inches over the landings.

   b. Fuelbreak units associated with the diffuse knapweed location along County Rd 501 shall be designed to retain existing strip of understory vegetation closest to the road for a depth of approximately 10 feet, attempting to create a vegetative barrier for weed spread from the road edge into the unit.

3. Pre-operation treatments of small isolated sites shall be treated manually. If operations are expected to remain at an infested site for more than 2 weeks, sale administrator shall monitor the site to determine if any flowering stalks have developed during the interval since initial treatment. If so, retreatment may be necessary.

4. Progression of work for timber and fuels activities would be organized so operations in areas with the densest infestations of noxious weeds in the roadbeds, on landings and off roads in fuel corridor areas, are completed last and in full. This design feature applies to Locations 9, 10 and 12 (see Figure 1, Carlberg 2013), OR:

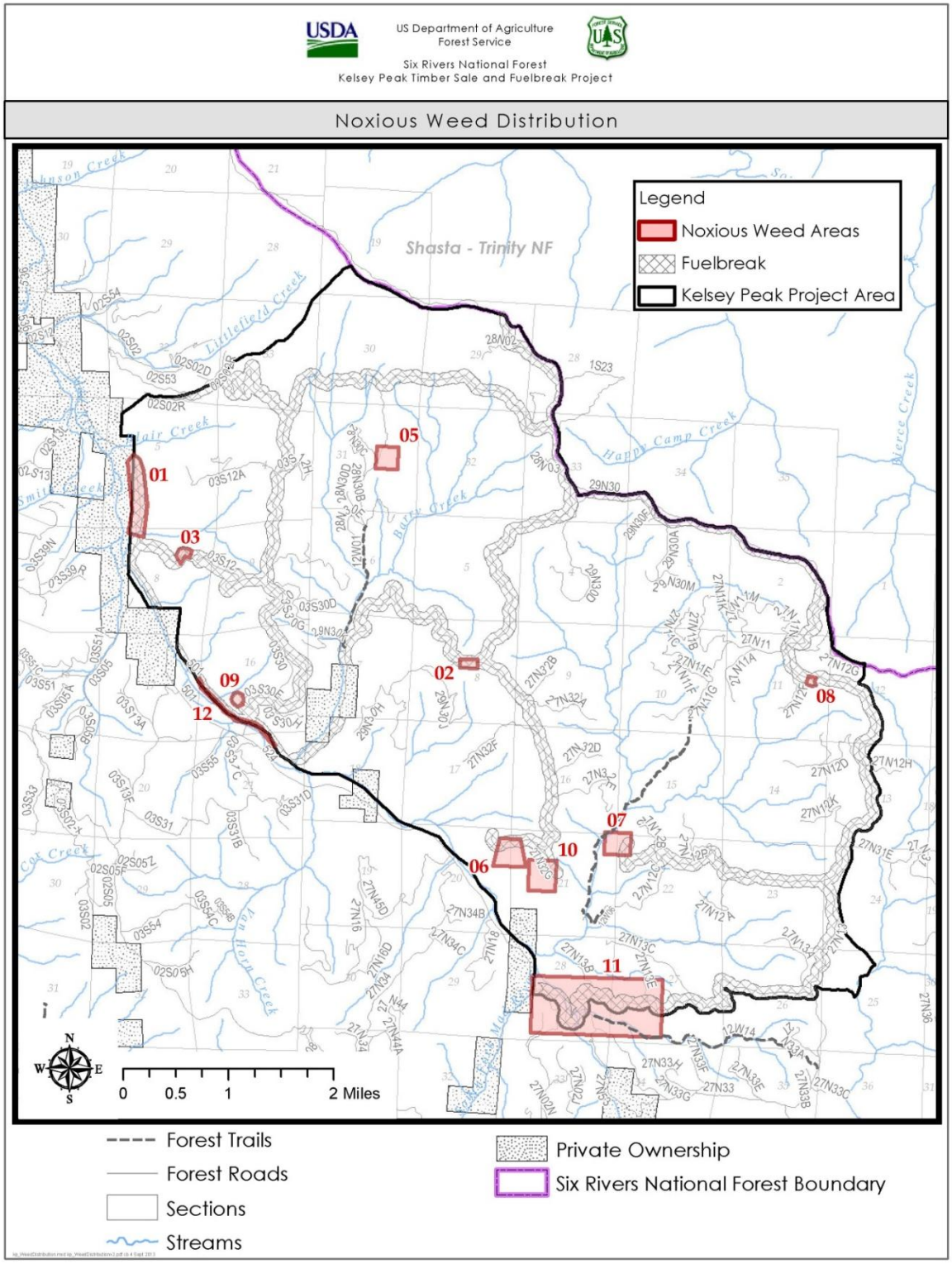


Figure 1. Noxious weed areas and locations

a. Alternatively, equipment-cleaning stations in association with locations 9, 10 and 12 (see Figure 1, Carlberg 2013) would be installed to clean equipment before leaving the work area.

5. The use of mastication equipment would be restricted from operating in shrub/grassland portions of fuel units or corridors where noxious weeds occur. This mitigation applies to fuels corridor segments in Locations 1, 2, 3, 8, 9, and 11 (see Figure 1, Carlberg 2013).
6. Imported soil, rock, mulch or other foreign material used in any part of this project would be required to originate from a weed-free source.

Cultural Resources

1. Any known eligible cultural sites would be protected through avoidance.
2. If new cultural resources are discovered during project implementation, all work would cease in that area until assessed by an archeologist.
3. Monitoring for archeological sites would occur throughout project implementation activities with priority being given to activities that are highly ground disturbing, such as road and landing construction and tractor logging.
4. In some treatment units, post-clearing surveys would be completed in areas too dense to survey before treatment, per Programmatic Agreement with the State Historic Preservation Office and the Federal Advisory Council on Historic Preservation, "Interim Protocol for Non-Intensive Fuels and Vegetation Reduction Projects."

Air Quality

1. Dust abatement would be required along NFS roads used for timber hauling as specified under timber sale contract provisions. Temporary roads in units 17 and 38 would receive dust abatement due to their proximity to county roads and private residences.
2. Jackpot and pile burning would be accomplished under Federal, State, and local guidelines as administered by the North Coast Unified Air Quality Management District.
3. A smoke management plan would be submitted and approved by the North Coast Air Quality Management District prior to use of prescribed fire.
4. Prescribed burning operations would comply with the procedures specified in the Open Burning Regulations for California North Coast Air Basin.

Recreation

Project design features for visuals and recreation would apply to sensitive travel routes and dispersed recreation sites.

1. Placement of skid trails within 100 feet of county roads 501 and 524, Forest Route 30, and a portion of Forest Route 23 along the California Back Country Discovery Trail would be avoided where practical.
2. New temporary roads and associated landings would be decommissioned after completion of activities.
3. Affected trail corridors would be protected or rehabilitated after completion of activities.

4. The recreating public would be notified of area, road, and trail closures due to harvest activities occurring in the project area. There would be public notifications at the major access roads, local newspaper, and Forest webpage.

Visual Quality

The following design features apply to units and fuelbreak corridors as viewed from sensitive travel routes County roads 501 and 524, Forest Route 30, portions of Forest Route 23 along the California Back Country Discovery Trail, North Fork hiking/equestrian trail, Low Mountain hiking/equestrian trail, and Barry Creek hiking /motorized OHV use trail.

1. Timber designated for removal would be cut-tree marked, where feasible.
2. Stumps would be cut 6 to 8 inches.
3. Where lop and scatter is the prescribed fuel treatment, slash visible from the road or trail would be lopped and scattered to a depth of 12 inches or less.
4. Tree prune heights would not exceed 10 feet or 1/3 of the tree height, whichever is less.
5. Shrub islands of various shapes and sizes within the fuelbreak corridor would be left in a random distribution and the fuelbreak corridor's edges would be feathered to provide a natural appearance.
6. Placement of skid trails would be avoided within 100 feet of county roads 501 and 524, Forest Route 30, and portions of Forest Route 23 along the California Back Country Discovery Trail where practical.
7. Cable corridors would be kept to a minimum width.
8. Temporary roads and landings viewed from sensitive travel routes would be rehabilitated (ripped then seeded or mulched) after completion of activities.
9. Skid roads and trails would be located on ridgetops, flat benches, or on existing skid trail (to extent possible) in order to minimize soil disturbance.

Public Safety

1. Traffic controls and cautionary signing would be implemented during operations and log haul as specified under contract provisions.
2. The contract would require the felling and possible removal of roadside hazard trees and roadside brushing before hauling may begin.
3. During implementation of this project, all contractors would be required to have roads signed at appropriate intersections, and in the immediate areas of current operations.
4. During the logging operations, the roads would be closed or open only for short periods. At the end of the day, the roads would be left open to traffic, including emergency vehicles.

Monitoring

Monitoring is an important step in the management process to determine if the Forest's management strategy has been appropriately implemented and is effective in achieving the identified goals.

Project level and LRMP monitoring, is implemented in accordance with the Land and Resource Management Planning Handbook [FSH 1909.12, Chap. 6, WO Amendment I, 7/88]. It is limited to those actions necessary to comply with the regulations set forth by the National Environmental Policy Act (NEPA) and the National Forest Management Act (NFMA). Resource-specific monitoring is additional monitoring that is required by other laws, executive orders or supplemental plans (such as Threatened and Endangered Species Recovery Plans).

There are several required and resource specific monitoring that occur annually on the Forest, such as invasive species monitoring, best management practices monitoring and instream monitoring. Also, post-harvest inspection monitoring is usually done during project implementation or soon after the project is finished in order to validate that silviculture prescriptions have been implemented.

Selected Alternative: Treatments in Each Unit

Table A-1 provides unit-by-unit information of treatments for the selected alternative. Abbreviations found in the table are:

Seral Stage

PH	Pole past harvest
EM	Early mature
EH	Early mature past select harvest
EA	Early with predominates
MM	Mid-mature
MH	Mid-mature past selection harvest
MA	Mid-mature with predominates
LM	Late mature

Fuels Treatments

LTA	Leave tops attached
LS	Lop and scatter
GP	Grapple pile
JPB	Jackpot burn
NT	No treatment
HP	Hand pile

Logging Systems

G	Ground (Tractor)
S	Skyline
H	Helicopter

Table A-1. Alternative 2A treatments by unit

Unit	Acres	Seral Stage	Logging System	Fuels Treatment	Total MBF
Commercial Thinning - Thin from Below					
1	21	EM	G	LTA/LS-GP/JPB	118
2a	13	EM/EH	G	LTA/LS-GP/JPB	74
2b	3	EM/EH	G	LTA/LS-GP/JPB	18
2c	2	EM/EH	G	LTA/LS-GP/JPB	11
2d	1	EM/EH	G	LTA/LS-GP/JPB	4
2e	0	EM/EH	G	LTA/LS-GP/JPB	3
3	29	EA	H	LS/JPB	427
4a	36	EM/EA/MM	G	LTA/LS-GP/JPB	328
4b	10	EM/EA/MM	G	LTA/LS-GP/JPB	90
4c	19	EM/EA/MM	G	LTA/LS-GP/JPB	171
5a	7	EM-MM	G	LTA/LS-GP/JPB	95
5b	18	EM/EA	H	LS/JPB	261
5d	5	EM/EA	H	LS/JPB	77
6a	5	EM	G	LTA/LS-GP/JPB	48
6b	48	EA/MM	H	LS/JPB	692
7	35	EM	G	LTA/LS-GP/JPB	312
8	12	EA/MM	S	LTA/LS/JPB	104
10	4	MM	S	LTA/LS/JPB	40
11	22	MM	S	LTA/LS/JPB	199

Table A-1. Alternative 2A treatments by unit

Unit	Acres	Seral Stage	Logging System	Fuels Treatment	Total MBF
12a	4	EM	S	LTA/LS/JPB	34
12c	10	EM	S	LTA/LS/JPB	93
12d	14	EM	S	LTA/LS/JPB	124
13	114	EH	G	LTA/LS-GP/JPB	626
14a	31	EM/MM	S	LTA/LS/JPB	282
14b	16	EM/MM	S	LTA/LS/JPB	141
14c	8	EM/MM	S	LTA/LS/JPB	70
16a	12	EH/MH	G	LTA/LS-GP/JPB	106
16b	3	EH/MH	G	LTA/LS-GP/JPB	24
16c	2	EH/MH	G	LTA/LS-GP/JPB	22
17	8	EH/MH	G	LTA/LS-GP/JPB	73
18	24	MM	S	LTA/LS/JPB	354
20	15	PH	G	LTA/LS-GP/JPB	80
22	21	EM/EH	G	LTA/LS-GP/JPB	188
23a	18	EM	S	LTA/LS/JPB	257
23b	8	EM	S	LTA/LS/JPB	117
24	25	EM	G	LTA/LS-GP/JPB	367
27	10	EM/MM	S	LTA/LS/JPB	139
28	16	EH	G	LTA/LS-GP/JPB	145
29a	8	EM/EA	S	LTA/LS/JPB	74
29b	3	EM/EA	S	LTA/LS/JPB	28
30	54	EA	G	LTA/LS-GP/JPB	294
31a	17	EH	G	LTA/LS-GP/JPB	91
31b	12	EM	S	LTA/LS/JPB	105
34	57	EH	G	LTA/LS-GP/JPB	315
35a	2	EM	G	LTA/LS-GP/JPB	27
35b	1	EM	G	LTA/LS-GP/JPB	18
37a	7	EM/MM	G	LTA/LS-GP/JPB	62
37b	15	EM	S	LTA/LS/JPB	132
37c	6	EH	G	LTA/LS-GP/JPB	51
37d	7	MM	S	LTA/LS/JPB	104
41	22	EH	G	LTA/LS-GP/JPB	201
42	15	EM/MM	S/endline	LTA/LS/JPB	221
46a	18	MM	H	LS/JPB	258
47	25	EM	G	LTA/LS-GP/JPB	222
48	8	EM	G	LTA/LS-GP/JPB	45
49	10	EM	S	LTA/LS/JPB	92
50	17	EM/MM	S	LTA/LS/JPB	252

Table A-1. Alternative 2A treatments by unit

Unit	Acres	Seral Stage	Logging System	Fuels Treatment	Total MBF
51	21	EM	S	LTA/LS/JPB	311
53a	15	EH	G	LTA/LS-GP/JPB	84
54	16	EM/EH	G	LTA/LS-GP/JPB	88
56	32	EH	G	LTA/LS-GP/JPB	287
60	14	EM-MM	G	LTA/LS-GP/JPB	197
61	8	MM	S	LTA/LS/JPB	119
62	7	MM	S	LTA/LS/JPB	104
63a	21	EM	S	LTA/LS/JPB	115
63b	20	EH	S	LTA/LS/JPB	110
64	8	EA/EM	G	LTA/LS-GP/JPB	68
67	28	EA/EM/MM	G	LTA/LS-GP/JPB	248
70	7	EM/EA	G	LTA/LS-GP/JPB	40
71	56	EM	G	LTA/LS-GP/JPB	308
72a	43	EM	G	LTA/LS-GP/JPB	237
73	7	EM/MM	S	LTA/LS/JPB	66
74	20	EH	G	LTA/LS-GP/JPB	183
78	24	EM	G	LTA/LS/JPB	217
81	5	EM/EH	G	LTA/LS-GP/JPB	29
83	11	EM/PH	G	LTA/LS-GP/JPB	63
85a	13	EH	G	LTA/LS-GP/JPB	70
85b	22	MM	S	LTA/LS/JPB	196
87	20	EM/EH	G	LTA/LS-GP/JPB	111
89a	6	MM	G	LTA/LS-GP/JPB	54
89b	9	EM	S	LTA/LS/JPB	80
90a	9	EM	G	LTA/LS-GP/JPB	49
90b	8	MM	S	LTA/LS/JPB	111
90c	6	MH	G	LTA/LS-GP/JPB	31
91a	6	MM	S	LTA/LS/JPB	92
91b	3	EM	G	LTA/LS-GP/JPB	17
92	4	EH	G	LTA/LS-GP/JPB	35
93	10	MM	G	LTA/LS-GP/JPB	90
94	8	EH	G	LTA/LS-GP/JPB	72
95	9	EM	G	LTA/LS-GP/JPB	51
Late Mature Restoration					
65	31	LM	G	LTA/LS-GP/JPB	444
Stand Improvement- Biomass					
9	8	EM	S	LTA/LS/JPB	42
12b	18	EM	S	LTA/LS/JPB	54

Table A-1. Alternative 2A treatments by unit

Unit	Acres	Seral Stage	Logging System	Fuels Treatment	Total MBF
19	10	PH	S	LTA/LS/JPB	57
35c	8	EM	S	LTA/LS/JPB	45
53b	30	EM	S	LTA/LS/JPB	165
58	16	EM/EH	G	LTA/LS-GP/JPB	87
68a	9	EA/MM	G	LTA/LS-GP/JPB	28
68b	6	EA/MM	G	LTA/LS-GP/JPB	19
69	10	PH/EM	S	LTA/LS/JPB	39
75	13	PH	S	LTA/LS/JPB	38
76	41	PH/EM	G	LTA/LS-GP/JPB	124
77	45	EM/PH	G	LTA/LS-GP/JPB	134
82	22	EM/PH	G	LTA/LS-GP/JPB	66
Totals	**1,718**				**14,186**

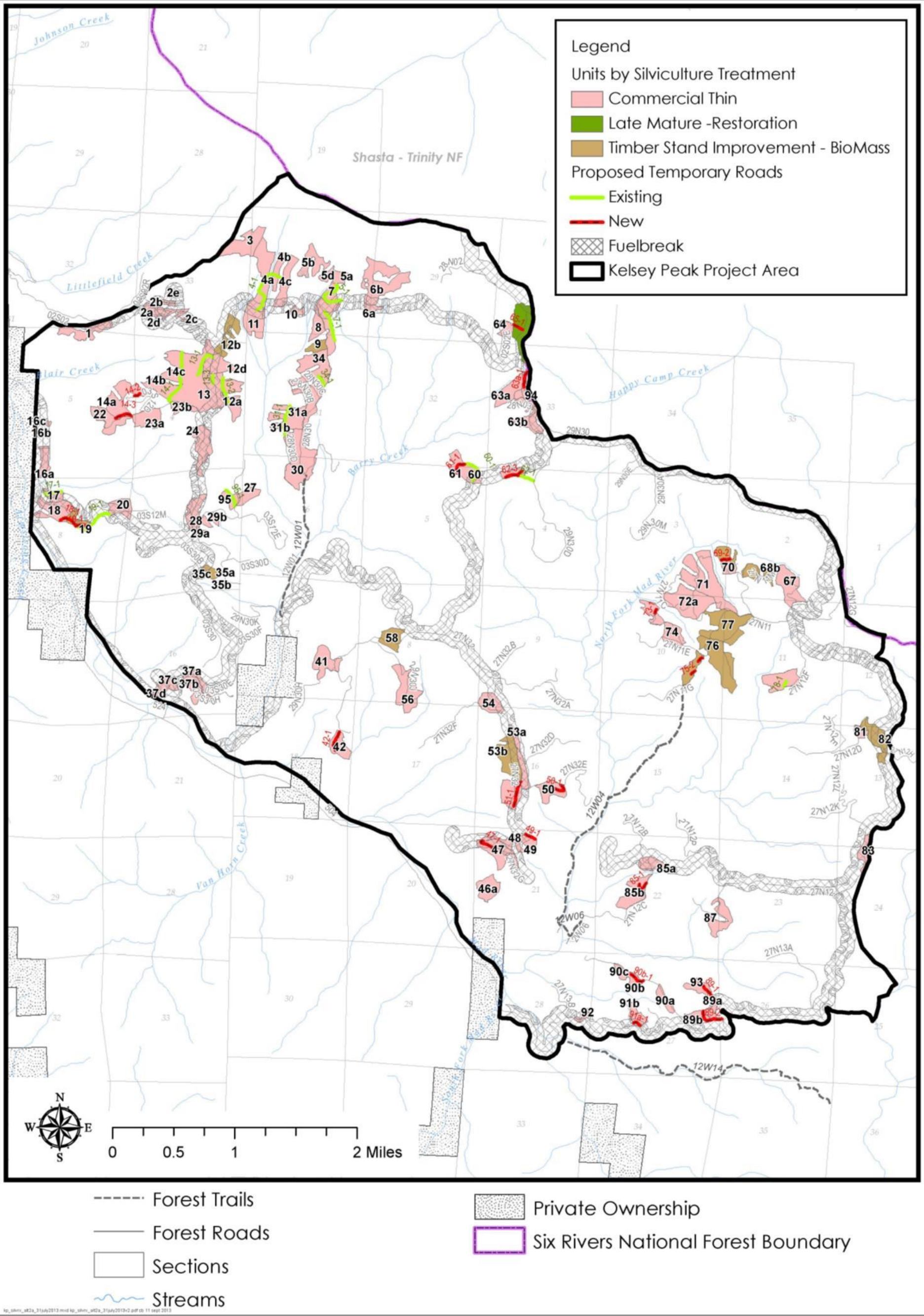
Maps of the Selected Alternative

Note: The following maps are sized as 11 inches wide by 17 inches long and are designed to be printed with blank back sides.

US Department of Agriculture
Forest Service

Six Rivers National Forest
Kelsey Peak Timber Sale and Fuelbreak Project
Alternative 2A

Silviculture Treatment

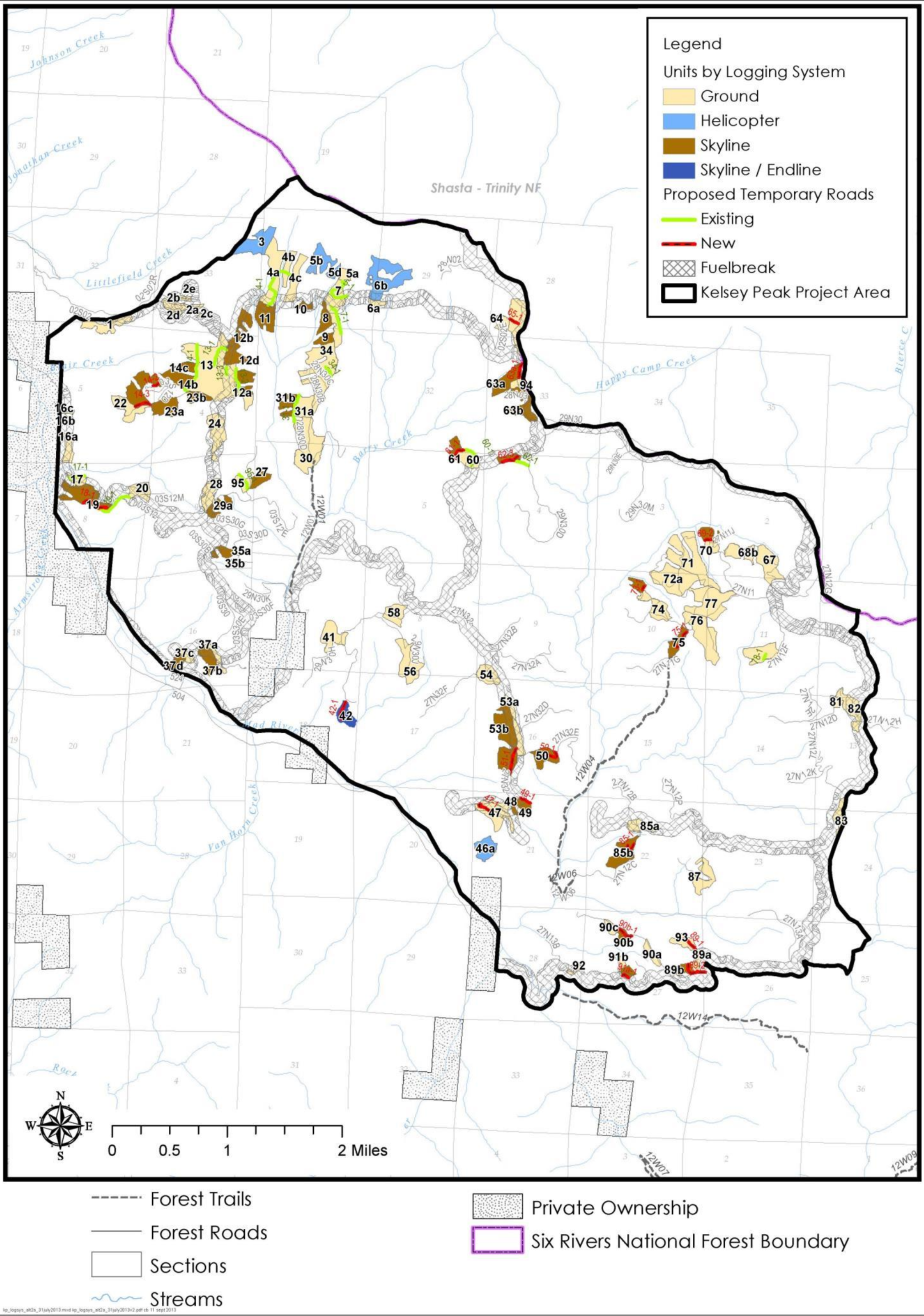


Map 1. Silvicultural and fuelbreak treatments and transportation system, Alternative 2A

US Department of Agriculture
Forest Service

Six Rivers National Forest
Kelsey Peak Timber Sale and Fuelbreak Project
Alternative 2A

Logging Systems

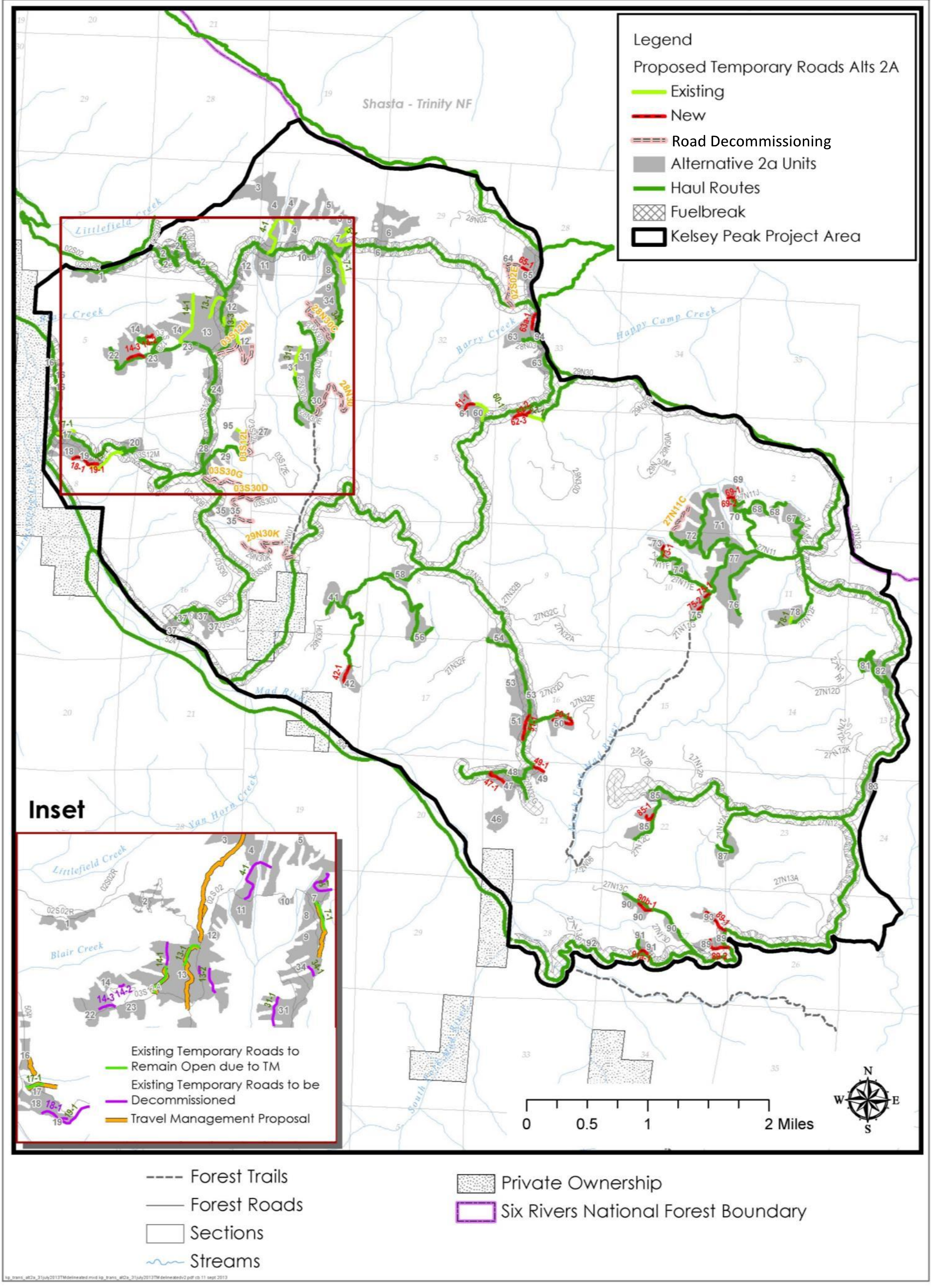


Map 2. Logging systems, Alternative 2A

US Department of Agriculture
Forest Service

Six Rivers National Forest
Kelsey Peak Timber Sale and Fuelbreak Project
Alternative 2A

Transportation

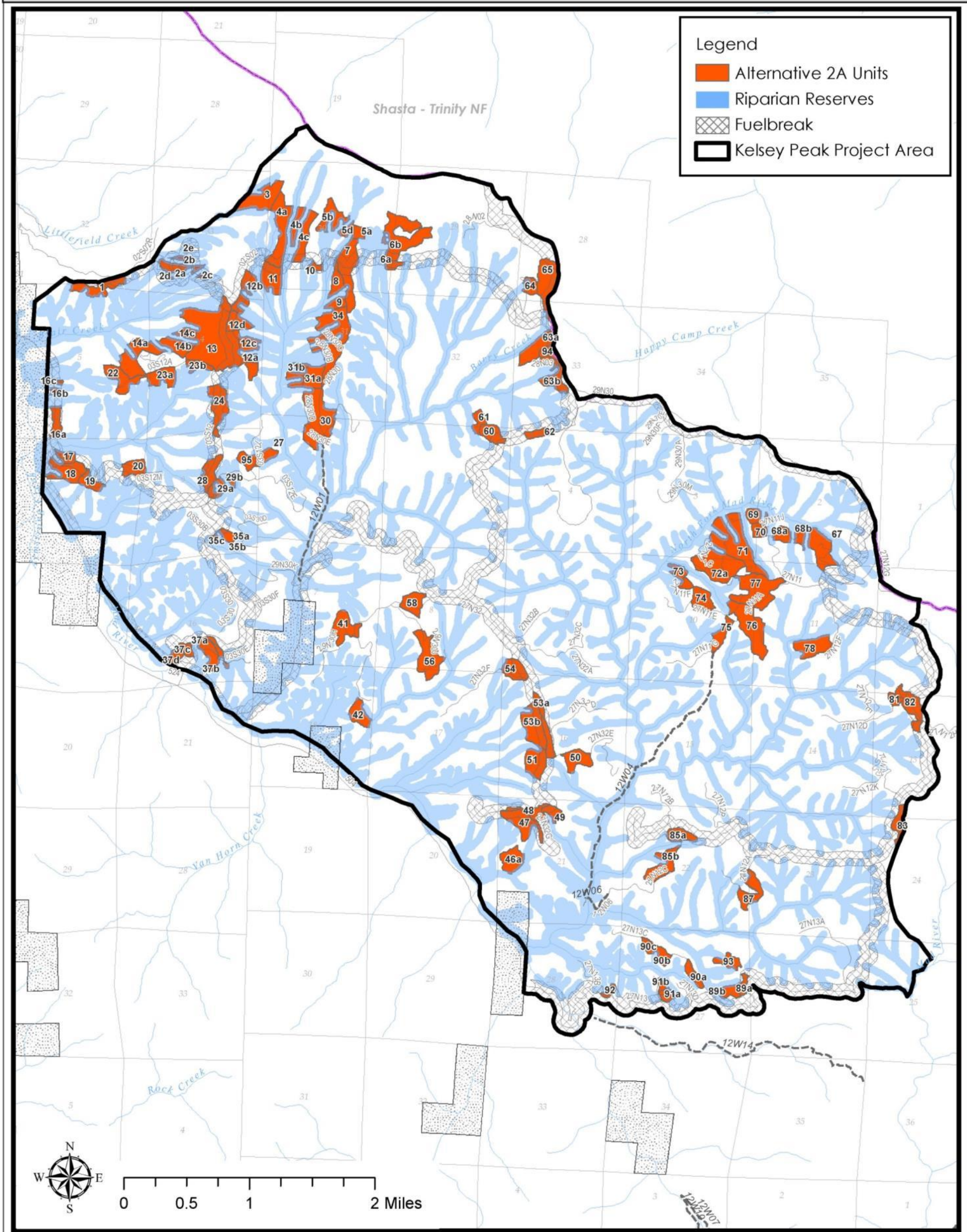


Map 3. Transportation system, Alternative 2A

US Department of Agriculture
Forest Service

Six Rivers National Forest
Kelsey Peak Timber Sale and Fuelbreak Project

Riparian Reserves



Map 4. Riparian reserves shown with Alternative 2A silvicultural treatments